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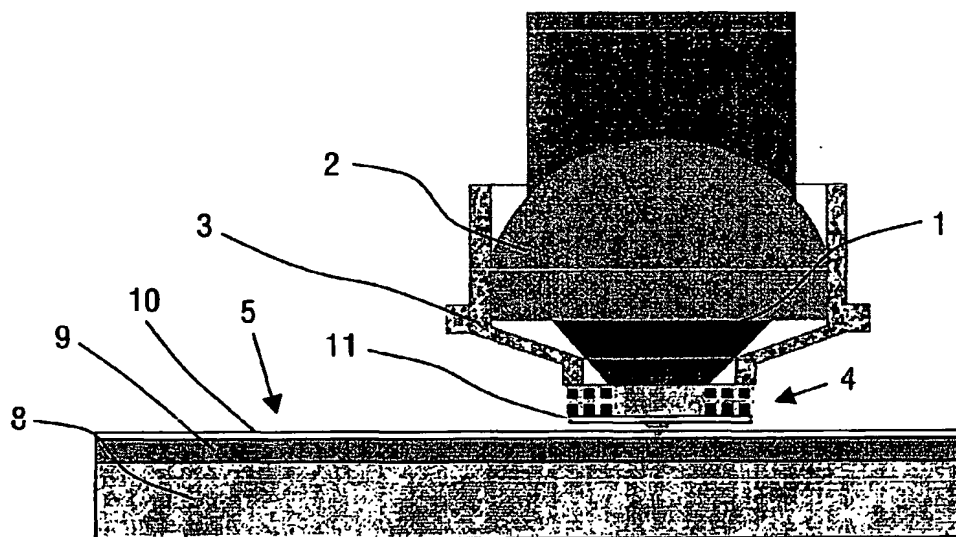
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(54) Title: OPTICAL RECORDING AND READING SYSTEM, OPTICAL DATA STORAGE MEDIUM AND USE OF SUCH MEDIUM



(57) Abstract: An optical recording and reading system for use with an optical data storage medium (5) is described. The system comprises the medium (5) having a recording stack (9), formed on a substrate (8). The recording stack (9) is suitable for recording by means of a focused radiation beam (1) with a wavelength λ in air. The recording stack (9) has a first optical surface (6) most remote from the substrate (8). An optical head (3), with an objective (2) having a numerical aperture $NA > 0.8$ and from which objective (2) the focused radiation beam emanates (1) during recording, is (2) arranged on the recording stack (9) side of said optical data storage medium (5). The objective has a second optical surface (7) closest to the recording stack (9), and is adapted for recording/reading at a free working distance d_F of smaller than $50 \mu m$ from the first optical surface (6). At least one of the first optical surface (6) and the second optical surface (7) is provided with a transparent hydrophobic layer (10) that has a refractive index n and has a thickness smaller than $0.5\lambda n$. In this way reliable recording and reading is achieved, specifically contamination build-up on the second optical surface (7) is prevented or counteracted.

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